

Attorney Docket No.: 045636-5054  
Application No.: Unassigned

12. A peptide selected from the group of consisting of  $Y_1KQYTSIHGGY_0$  (SEQ ID NO: 2),  $Y_1KKQYTSIHGGY_0$  (SEQ ID NO: 3) and  $Y_1KKKQYTSIHGGY_0$  (SEQ ID NO: 4), in which  $Y_0$  is null or represents V, VV, VVE VVEV or VVEVD and  $Y_1$  represents an internalization and addressing peptide corresponding to the sequence  $X_1X_2X_3X_4X_5X_6X_7X_8X_9X_{10}X_{11}X_{12}X_{13}X_{14}X_{15}X_{16}$ , in which  $X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}, X_{14}, X_{15}$  and  $X_{16}$  each represent an  $\alpha$ -amino acid, 6 to 10 of said amino acids being hydrophobic and  $X_6$  representing a tryptophan.

13. The peptide as claimed in claim 12, wherein the sequence  $Y_1$  corresponds to the sequence KQIKIWFQNRRMKWKK (SEQ ID NO: 5).

14. A method of selecting and screening products capable of inhibiting apoptosis comprising detecting inhibition of the capacity of the juxtamembrane domain located between positions 649 and 664 of the cytoplasmic domain of amyloid precursor protein to induce apoptotic activity subsequent to internalization into a cell.

15. The method of claim 14, wherein said peptide is combined with an internalization peptide selected from the group consisting of internalization peptides capable of crossing the blood-brain barrier.

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16. A method of selecting and screening products capable of inhibiting apoptosis comprising detecting inhibition of the capacity of a peptide selected from the group consisting of  $Y_1KQYTSIHG Y_0$  (SEQ ID NO: 2),  $Y_1KKQYTSIHG Y_0$  (SEQ ID NO: 3) and  $Y_1KKKQYTSIHG Y_0$  (SEQ ID NO: 4), in which  $Y_0$  is null or represents V, VV, VVE VVEV or VVEVD and  $Y_1$  is null or represents an internalization and addressing peptide corresponding to the sequence  $X_1X_2X_3X_4X_5X_6X_7X_8X_9X_{10}X_{11}X_{12}X_{13}X_{14}X_{15}X_{16}$ , in which  $X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}, X_{14}, X_{15}$  and  $X_{16}$  each represent an  $\alpha$ -amino acid, 6 to 10 of said amino acids being hydrophobic and  $X_6$  representing a tryptophan, to induce apoptotic activity subsequent to internalization into a cell.

17. The method of claim 16 wherein candidate inhibitors are tested against cells in which the claimed peptide has been internalized.

18. The method of claim 17 comprising the steps of:

- bringing the potential inhibitor into contact with said cell into which said peptide has been internalized, and
  - either measuring cleavage of DNA or of actin or measuring the p20 subunit of caspase 3.

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19. A method of treating cancer comprising the administration of an effective amount of a peptide of claim 12.

20. A peptide selected from the group of peptides  $Y_1KQYTSIHG Y_0$  (SEQ ID NO: 2) and  $Y_1KKQYTSIHG Y_0$  (SEQ ID NO: 3), in which  $Y_0$  is null or represents V, VV, VVE VVEV or VVEVD and  $Y_1$  is null, and of the peptide of formula  $Y_1KKKQYTSIHG Y_0$  (SEQ ID NO: 4), in which  $Y_0$  represents VVEVD and  $Y_1$  is null.

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20. A peptide selected from the group consisting of peptides  $Y_1KQYTSIHHGY_0$  (SEQ ID NO: 2) and  $Y_1KKQYTSIHHGY_0$  (SEQ ID NO: 3), in which  $Y_0$  is null or represents V, VV, VVE VVEV or VVEVD and  $Y_1$  is null, and of the peptide of formula  $Y_1KKKQYTSIHHGY_0$  (SEQ ID NO: 4), in which  $Y_0$  represents VVEVD and  $Y_1$  is null.

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CLAIMS

1. A peptide, characterized in that it is selected  
from the group of peptides defined by the  
5 sequences (one-letter code):  $Y_1KQYTSIHGGY_0$  (SEQ ID  
NO: 2),  $Y_1KKQYTSIHGGY_0$  (SEQ ID NO: 3) and  
 $Y_1KKKQYTSIHGGY_0$  (SEQ ID NO: 4), in which  $Y_0$  is null  
or represents V, VV, VVE VVEV or VVEVD and  $Y_1$   
represents an internalization and addressing  
10 peptide corresponding to the sequence  
 $X_1X_2X_3X_4X_5X_6X_7X_8X_9X_{10}X_{11}X_{12}X_{13}X_{14}X_{15}X_{16}$ , in which  
 $X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}, X_{14}, X_{15}$  and  $X_{16}$  each  
represent an  $\alpha$ -amino acid, 6 to 10 of said amino  
acids being hydrophobic and  $X_6$  representing a  
15 tryptophan.
2. The peptide as claimed in claim 1, characterized  
in that the sequence  $Y_1$  corresponds to the sequence  
KQIKIWFQNRMRMKWKK (SEQ ID NO: 5).
- 20 3. The use of a peptide comprising the juxtamembrane  
domain located between positions 649 and 664 of  
the cytoplasmic domain of amyloid precursor  
protein, for selecting and screening products  
25 capable of inhibiting apoptosis.
4. The use as claimed in claim 3, characterized in  
that said peptide is combined with an  
internalization peptide selected from the group  
30 consisting of internalization peptides capable of  
crossing the blood-brain barrier.
5. The use of a peptide selected from the group of  
peptides defined by the sequences (one-letter  
35 code)  $Y_1KQYTSIHGGY_0$  (SEQ ID NO: 2),  $Y_1KKQYTSIHGGY_0$   
(SEQ ID NO: 3) and  $Y_1KKKQYTSIHGGY_0$  (SEQ ID NO: 4),  
in which  $Y_0$  is null or represents V, VV, VVE VVEV  
or VVEVD and  $Y_1$  is null or represents an

- internalization and addressing peptide corresponding to the sequence  $X_1X_2X_3X_4X_5X_6X_7X_8X_9X_{10}X_{11}X_{12}X_{13}X_{14}X_{15}X_{16}$ , in which  $X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}, X_{14}, X_{15}$  and  $X_{16}$  each represent an  $\alpha$ -amino acid, 6 to 10 of said amino acids being hydrophobic and  $X_6$  representing a tryptophan, for selecting and screening products capable of inhibiting apoptosis.
6. The use of cells, into which a peptide as defined in claims 3 to 5 has been internalized, for selecting and screening products capable of inhibiting apoptosis.
7. A method for screening and selecting products capable of inhibiting apoptosis, characterized in that it comprises:
- bringing the potential inhibitor into contact with a cell into which a peptide as defined in claims 3 to 5 has been internalized, and
  - measuring cleavage of DNA or of actin or measuring the p20 subunit of caspase 3.
8. The use of a peptide as defined in claims 3 to 5, for preparing an anticancer medicinal product.
9. A peptide, characterized in that it is selected from the group of peptides defined by the sequences (one-letter code)  $Y_1KQYTSIHGGY_0$  (SEQ ID NO: 2) and  $Y_1KKQYTSIHGGY_0$  (SEQ ID NO: 3), in which  $Y_0$  is null or represents V, VV, VVE VVEV or VVEVD and  $Y_1$  is null, and of the peptide of formula  $Y_1KKKQYTSIHGGY_0$  (SEQ ID NO: 4), in which  $Y_0$  represents VVEVD and  $Y_1$  is null.